

REMARKS:

Applicants note that this response uses the new revised format for amendments set forth at <http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/revamdtprac.htm>.

Drawings

The figures were objected to for using reference numeral 115 for both “other blocks” and “active map.” A replacement figure for Figure 1 accompanies this response. In the replacement figure, reference numeral 115 for “other blocks” has been changed to 117.

Conforming changes have been made to the specification.

The figures also were objected to for not including reference sign 328, which was used for “other blocks” at page 23, line 3, of the specification. In response, Applicants have amended this part of the specification to refer to other blocks 211 instead of 328. Figure 2 shows “other blocks” 211.

Status

After entry of this response, claims 1 to 8 and 24 to 45 will be pending. Claims 1, 2, 3, 5, 6, 24, 26, 27, 28, 30, 31 and 34 have been amended, and claims 36 to 45 have been added. Claims 1, 26 and 36 are the independent claims. Reconsideration and further examination are respectfully requested.

Withdrawal of Previous Arguments

Applicants hereby withdraw all previous arguments made in this case as moot. In view of the Office Action, these arguments have not persuaded the Examiner and are therefore immaterial to the disposition of the case.

Claim Rejections

Claims 1 to 8 and 24 to 35 were rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,819,292 (Hitz). Applicant has amended the independent ones of these claims.

Claims 1 to 8, 24 and 25: Amended claim 1 is reproduced below for the Examiner's convenience:

1. A method of capturing the contents of ~~the~~ files and directories in a file system, said file system comprising a set of storage blocks in a mass storage system including steps of
 recording an active map in said file system of said storage blocks used by said active file system;
 recording a consistency point in said file system including a consistent version of said file system at a previous time, said consistency point including a copy of said active map at said previous time; and
 refraining from writing data to storage blocks in response to said active map and at least one said copy of said active map included in said consistency point.

The applied Hitz reference is not seen by Applicants to disclose or to suggest the foregoing features of claim 1, at least with respect to refraining from writing data to storage blocks in response to an active map and a copy of an active map included in a consistency point.

According to Applicant's understanding, the map in Hitz that is used to determine whether to write data to storage blocks is Hitz's blockmap. This blockmap is discussed in Hitz at col. 9, lines 50 to 65, which was cited by the Examiner.

The blockmap is part of Hitz's metadata. A copy of this metadata can be included in a consistency point or snapshot made at a previous time. However, Hitz makes no mention of referring to such a copy of the blockmap when deciding if blocks are free for writing data. Rather, Applicant believes that Hitz uses the blockmap in the active file system to determine whether or not to write data to storage blocks.

In more detail, Applicants understand Hitz to use the blockmap in its active file system to determine whether or not a particular block is allocated to the active file system or to one of plural snapshots. In contrast, the embodiment recited by claim 1 looks to copies of active maps in the recorded consistency points themselves. These are two entirely different operations.

One benefit of the claimed operation is that the active map for the active file system only needs to indicate which blocks are used by the active file system. Then, when a consistency point is made, that active map is effectively "frozen" in the consistency point. The consistency point's "frozen" map can be used to determine what blocks are allocated to that consistency point. Thus, the active file system does not need to maintain data in the active map about the consistency points, for example data such as bit 1-20 in Hitz's blockmap. Of course, such data could be stored in the active map if so desired.

Thus, Hitz is not seen to teach claim 1's feature of refraining from writing data to storage blocks in response to an active map and a copy of an active map included in a

consistency point. Accordingly, withdrawal is respectfully requested of the rejection of claim 1, as is allowance of claim 1.

Applicants note that claim 1 prior to amendment in this response recited substantially this same subject matter, albeit in a slight different form. In particular, the refraining step recited “at least one said copy of said active map at said previous time.” The claim now recites “at least one said copy of said active map included in said consistency point.” However, the “copy of said active map included in said consistency point” refers to the same copy as the “copy of said active map at said previous time,” at least because the claim first recites “said consistency point including a copy of said active map at said previous time.” Nonetheless, Applicants have made this change to emphasize better the difference between claim 1 and the teachings of Hitz.

Claims 2 to 8, 24 and 25 depend directly or indirectly from claim 1. Accordingly, withdrawal of the rejection and allowance of those claims also are respectfully requested.

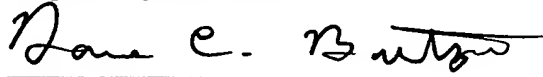
Claims 26 to 45: Claims 26 to 35 recite file systems that substantially implement the methods of claims 1 to 8, 24 and 25. Claims 36 to 45 recite memories that store instructions to implement those methods. Accordingly, withdrawal of the rejection and allowance of those claims are respectfully requested at least for the reasons set forth above.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dane C. Butzer", written over a horizontal line.

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